In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1. – 31. (Cancelled)

32. (Currently amended) A method of producing an optical semiconductor device that increases the coupling efficiency between an optical element disposed on a surface of a silicon substrate and an optical fiber, the method comprising:

etching first and second opposing inclined surfaces, a bottom surface connecting the first and second inclined surfaces at a bottom of the first groove portion, and a third inclined surface ~~perpendicular~~ oblique to the bottom surface and connecting the first and second inclined surfaces on an end of the first groove portion ~~first and second inclined surfaces to form a substantially V-shaped first groove portion in the substrate~~;

forming a second groove portion in the substrate such that the second groove portion extends in a direction perpendicular to a direction of the first groove portion, the third inclined surface extending from the second groove portion such that the third inclined surface is oblique to the second groove ~~and includes the first, second, and third inclined surfaces~~ [[.]];and

positioning a lens on the first and second inclined surfaces such that a part of the lens protrudes in the second groove portion.

33. (Cancelled)

34. (Original) The method according to claim 32, further comprising mounting the optical element to the surface of the substrate.

35. (Original) The method according to claim 32, further comprising extending a recess that forms the second groove portion across the substrate.

36. (Original) The method according to claim 32, the forming of the second groove portion further comprising machining the substrate such that the second groove portion is sawed in a single direction.

37. (Original) The method according to claim 32, further comprising etching the substrate to form the second groove portion.

38. (Original) The method according to claim 32, further comprising plasma-etching the substrate to form the second groove portion.

39. (Original) The method according to claim 32, further comprising wet-chemical etching the substrate to form the second groove portion.

40. (Original) The method according to claim 32, further comprising forming a substantially rectangular shaped second groove portion.

41. (Original) The method according to claim 32, further comprising machining the second groove portion to have a substantially circular shaped sectional configuration and setting a radius of the second groove portion by a rotation shaft of a rotation member.

42. (Currently amended) The method according to claim [[33]]32, further comprising forming the third inclined surface to define an enclosure that accepts a curved surface of the lens.

43. (Original) The method according to claim 34, further comprising mounting the optical element adjacent to an upper edge of the third inclined surface.

44. (Original) The method according to claim 32, further comprising forming the second groove portion such that a depth of the second groove portion is smaller than a depth of the first groove portion.

45. (Original) The method according to claim 35, further comprising extending the recess across an entire region of the substrate that encompasses the optical semiconductor device.

46. (Currently amended) The method according to claim [[33]]- 32, further comprising forming the second groove portion such that the second groove portion does not extend significantly further than opposing ends of an edge portion of the lens.

47. (Currently amended) The method according to claim[[45]] 46, further comprising forming a side wall of the second groove portion and abutting the edge portion of the lens against the side wall of the second groove portion.

48. (Original) The method according to claim 32, further comprising transmitting optical signals between the optical element and the optical fiber.

49. (Currently amended) The method according to claim [[33]] 32, further comprising determining an optimum position of the lens for optical communication between the optical element and the optical fiber.

50. (Currently amended) The method according to claim [[48]]49, further comprising fixing the optimum position of the lens subsequent to positioning the lens.

51. (Original) The method according to claim 49, further comprising transmitting optical signals between the optical element and the optical fiber subsequent to fixing the optimum position of the lens.

52. (Currently amended) The method according to claim [[33]] 32, further comprising fixing a position of the lens subsequent to positioning the lens.

53. (Original) The method according to claim 51, further comprising transmitting optical signals between the optical element and the optical fiber subsequent to fixing the position of the lens.